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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,941	12/29/2005	Georg Hofmann	INA-21	4402

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EXAMINER

RIDDLE, KYLE M


ART UNIT	PAPER NUMBER
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3748

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/562,941	Applicant(s)  HOFMANN, GEORG	
	Examiner Kyle M. Riddle	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 * Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/29/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 8, line 14, "12" should read --20--.

Appropriate correction is required.

Claim Objections

2. Claim 5 recites the limitation "the catch projections" in claim 5, line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim. Furthermore, the claim has been amended to depend from claim 1 but continues to reference claim 4 on line 4 of the claim. This reference to claim 4 should be deleted and the antecedent basis corrected.
3. Claim 8 recites the limitation "the radial recesses" in claim 8, lines 4 and 5 of the claim. There is insufficient antecedent basis for this limitation in the claim. Furthermore, the claim has been amended to depend from claim 6 but continues to reference claim 7 on line 5 of the claim. This reference to claim 7 should be deleted and the antecedent basis corrected.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Regarding claim 4, the phrase "preferably" on line 6 of the claim renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. (U.S. Patent 5,325,825) in view of Takehara et al. (U.S. Patent 5,284,112).

Schmidt et al. disclose a non-switchable hydraulic support element 6 for a valve actuating mechanism of an internal combustion engine (column 3, lines 39-40), having a hollow cylindrical housing 28, in the bore of which a pressure piston or piston upper part 30 and piston lower part 31 runs in an axially moveable manner, one end or spherical end portion 10 projecting beyond an edge of the housing 28 (Figure 5) and the end portion 10 supporting the spherical cup 11 of the rocker arm or finger lever 4 (column 3, lines 41-50; Figure 1) and having a non-return valve or ball valve 32 on an end away from end portion 10, a high pressure space or high pressure chamber 33 for hydraulic medium being generated between the end opposite end portion 10 and an opposing base of the housing 28, the high pressure chamber 33 capable of being supplied with the hydraulic medium from a storage space or oil reservoir 34 situated above the opposite end of end portion 10 (column 4, lines 21-42; Figure 5).

They, however, fail to specifically disclose the pressure piston consisting of synthetic material reinforced with glass fibers or carbon fibers.

Takehara et al. teach a valve lifter 4 formed of a synthetic material or fiber reinforced plastic and containing carbon or glass fibers (column 5, lines 6-15). It would have been obvious

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to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Takehara et al. in the hydraulic support element of Schmidt et al., since the use thereof would have provided a light-weight design with high durability.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. in view of Takehara et al., as applied to claim 1 above, and further in view of Murakami et al. (U.S. Patent 5,361,648).

Schmidt et al., as modified by Takehara et al., disclose the support element cited above, however, fail to specifically disclose the use of glass or carbon beads as reinforcement.

Murakami et al. teach a cam follower apparatus for a valve drive mechanism (column 1, lines 6-9, column 4, lines 3-7) which uses glass or ceramic beads for reinforcement or strengthening (column 6, lines 58-65; Table 1). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Murakami et al. in the hydraulic support element of Schmidt et al., as modified by Takehara et al., since the use thereof would have provided a more durable but still light-weight design.

9. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being obvious over Schmidt et al. in view of Takehara et al.

Schmidt et al., as modified by Takehara et al., disclose the support element cited above, however, fail to specifically disclose the upper portion being made of synthetic material and the lower portion being made of metallic material, and the outer surface being smooth. Schmidt et al. do disclose an upper piston part 30 and a separate lower piston part 31, the use of the synthetic material taught by Takehara et al. in the upper portion only being a matter of obvious choice to one of ordinary skill in the art depending on strength requirements, manufacturing

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tolerances, expansion characteristics, etc. The outer surface of the upper part 30 of Schmidt et al. appears to be smooth, and to make it smooth would also be a matter of obvious choice to one of ordinary skill in the art since the surface is a sliding contact surface and the smoothness of the surfaces affects the functionality of the device.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. in view of Takehara et al., as applied to claim 1 above, and further in view of Holtzberg et al. (U.S. Patent 4,430,970).

Schmidt et al., as modified by Takehara et al., disclose the support element cited above, however, fail to specifically disclose the pressure piston being produced by injection molding.

Holtzberg et al. teach a composite tappet that is produced by injection molding (column 5, lines 4-14). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Holtzberg et al. in the hydraulic support element of Schmidt et al., as modified by Takehara et al., since the use thereof would have provided a specific method of producing the synthetic pressure piston.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al. in view of Takehara et al., as applied to claim 1 above, and further in view of Maas et al. (U.S. Patent 5,655,487).

Schmidt et al., as modified by Takehara et al., disclose the support element cited above, however, fail to specifically disclose the support element being of a switchable design.

Maas et al. teach a switchable support element 1 for a finger lever of a valve drive of an internal combustion engine and having a hollow cylindrical housing 2 in a bore 4 of cylinder head 5 (column 2, lines 62-67 with column 3, line 1; Figure 1). It would have been obvious to

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one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching by Maas et al. in the hydraulic support element of Schmidt et al., as modified by Takehara et al., since the use thereof would have provided an alternate hydraulic support element with the ability to deactivate an engine cylinder thereby improving fuel consumption.

Allowable Subject Matter

12. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The IDS (PTO-1449) filed on 29 December 2005 has been considered. An initialized copy is attached hereto.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 2 patents.

- Krieg (U.S. Patent 4,228,771) discloses a lash adjustment means with a two-part plunger extending beyond the housing.

- Edelmayer (U.S. Patent 5,622,147) discloses a hydraulic lash adjuster with a two-part plunger extending beyond the housing.

Communication

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (571) 272-4864. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kyle M. Riddle
Examiner
Art Unit 3748

kmr



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